

Sub G3
50. (Amended) An endoscope comprising:
a tube assembly having a proximal end and a distal end;
a first lens fixed within said tube assembly at the distal end thereof;
a second lens disposed within said tube assembly proximate to said first lens, said second lens being movable bi-directionally along the axis of said tube assembly;

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a photodetector disposed within said tube assembly proximate to said second lens, with said second lens being located between said first lens and said photodetector, said photodetector being movable bi-directionally along the axis of said tube assembly;

a first control rod extending parallel to said tube assembly, said first control rod having a proximal end and a distal end with said distal end coupled to said second lens; [and]

a first drive means comprising a first reversible electric motor for moving said first control rod bi-directionally so as to cause said first control rod to move said second lens along said axis toward or away from said first lens according to the direction of movement of said first control rod [.] ;

a second control rod extending parallel to said tube assembly, said second rod having a proximal end and a distal end with said distal end coupled to said photodetector, and;

a second drive means comprising a second reversible electric motor for moving said second control rod bi-directionally so as to cause said second control rod to move said photodetector toward or away from said second lens according to the direction of movement of said second control rod.

Sub G3
52. (Amended) An endoscope according to claim 50 [wherein said drive means includes a reversible electric motor, and] further including first and

D3 second manually operable switch means for controlling operation of said [motor]
first and second electric motors.

Sub H1 56. (Amended) An endoscope according to claim [53] 50 wherein said photodetector is carried by a housing that is slidably disposed in said tube assembly, and further wherein said second rod is attached to said housing.

57. (Amended) An endoscope according to claim [55] 52 further including a handle coupled to the proximal end of said tube assembly, and further wherein said first and second switch means are mounted to said handle.

Sub G4 58. (Amended) An endoscope according to claim 50 wherein said tube assembly comprises an inner tube and an outer tube, and further including a plurality of light-transmitting elements disposed between said inner and outer tubes, each of said light-transmitting elements having a [first] distal end and a [second] proximal end with the [second] distal ends thereof terminating at the distal end of said tube assembly.

D5 60. (Amended) An endoscope according to claim [59] 58 further including a hollow handle attached to the proximal end of said tube assembly, and means carried by said handle for injecting light into the proximal ends of said light-transmitting elements, whereby to provide light for illuminating the space in front of said distal end of said tube assembly.

Sub G5 62. (Amended) An endoscope according to claim 60 wherein said means for
D6 injecting light comprises [further including] a light source mounted within said
handle and coupled to the proximal ends of said light-transmitting elements.

63. (Amended) An endoscope comprising:
a tube assembly having a proximal end and a distal end;
a handle[,] having a cavity region, said handle coupled to the proximal end of said tube assembly;
a first lens disposed in the distal end of said tube assembly;
a photodetector slidably disposed in the distal end of said tube assembly in spaced relation to said first lens;
a first control rod [carried by] within said tube assembly, said first control rod being movable lengthwise relative to said tube assembly, said first control rod having first and second opposite ends with said first end coupled to said photodetector; and
[a first] an electrically-operable drive means carried by said handle and coupled to said second end of said first control rod for moving said rod lengthwise relative to said tube assembly whereby to move said photodetector toward or away from said first lens.

64. (Amended) An endoscope according to claim 63 wherein said [first] electrically-operable drive means comprises a reversible electric motor mounted within said handle.

65. (Amended) An endoscope according to claim 64 [wherein] further including a second lens disposed in said tube assembly between said first lens and said photodetector, said second lens [is] being slidable lengthwise in said tube assembly, and further comprising a second control rod carried by said tube assembly, said second control rod being movable lengthwise relative to said tube assembly, said second control rod having first and second opposite ends

with said first end coupled to said second lens, and a second drive means carried by said handle and coupled to said second end of said second control rod for moving said second control rod lengthwise of said tube assembly, whereby to move said second lens toward or away from said first lens and thereby adjust the magnification of the image transmitted by said second lens to said photodetector.

67. (Amended) An endoscope according to claim 65 further comprising a third lens disposed between [an aperture of] the distal end of said tube and said first lens.

68. (Amended) An endoscope according to claim [67] 64 further comprising a plurality of fiber optic rods carried by said tube assembly and disposed in surrounding relation to said lenses, each of said fiber optic rods having a first end and a second end with their second ends terminating at the distal end of said tube.

71. (Amended) An endoscope according to claim 65 further wherein said first drive means comprises a first reversible electric motor mounted within said handle and a focus control switch mounted on said handle for controlling operation of said first electric motor so as to move said photodetector toward and away from said second lens and thereby adjust the focusing of the image transmitted by said second lens to said photodetector.

72. (Amended) An endoscope according to claim 71 further wherein said second lens is designed to function as a zoom lens, and further wherein said second drive means comprises a second reversible electric motor mounted

108
Sub #27
within said handle, and further including a zoom control switch mounted on said handle for controlling operation of said second electric motor so as to move said second lens toward and away from said first lens and thereby adjust the magnification of the image transmitted by said second lens to said photodetector.

73. (Amended) An endoscope comprising:

a tube assembly having a proximal end and a distal end, said tube assembly comprising an inner tube and an outer tube;

a plurality of fiber optic elements extending lengthwise of and disposed between said inner and outer tubes, each of said fiber optic elements having a first end and a second end with the first ends of said fiber optic elements terminating at the distal end of said tube assembly;

a handle coupled to the proximal end of said tube;

a first bi-directional motor disposed in a cavity in said handle;

a first lens disposed in the distal end of said tube;

a photodetector disposed proximate said first lens in the distal end of said tube, said photodetector being movable lengthwise of said tube toward and away from said first lens;

a first control rod having a first end and a second end with the first end of said first control rod coupled to said photodetector; said control rod being carried by and movable lengthwise of said tube, whereby to move said photodetector toward or away from said first lens;

a first mechanism coupled between the second end of said first control rod and said first bi-directional motor for moving said first control rod lengthwise toward or away from said distal end of said tube;

a second zoom lens disposed in said tube between said first lens and said photodetector; said zoom lens being movable lengthwise of said tube whereby to vary the magnification of the image that it transmits from said first lens to said photodetector;

a second bi-directional motor disposed in a cavity in said handle;

a second control rod having a first end and a second end with the first end of said second control rod coupled to said zoom lens, said second control rod being carried by and movable lengthwise of said tube, whereby to move said zoom lens toward or away from said first lens; and

a second mechanism coupled between the second end of said second control rod and said second bi-directional motor for moving said second control rod lengthwise toward or away from said distal end of said tube.

75. (Amended) An endoscope according to claim [74] 73 further comprising means carried by said handle and coupled to the second ends of each of said fiber optic rods for injecting light into said second ends of said fiber optic rods.

76. (Amended) An endoscope according to claim 75 wherein said [last-mentioned] means for injecting light comprises an illumination assembly disposed in a cavity region of said handle.

77. (Amended) An endoscope according to claim 73 wherein said [tube comprises an inner tubular member and an outer tubular member, with said] first and second lenses and said photodetector are disposed within said inner [tubular member,] tube [and further including a plurality of optical fibers disposed between and extending lengthwise of said tubular members, said fibers each having a first end and a second end with the said second ends thereof

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terminating at the distal end of said tube, and means carried by said handle and coupled to said first ends of said fibers for injecting light into said fibers, whereby light is transmitted by said fibers so as to illuminate the region immediately in front of said distal end of said tube].

PLEASE ADD THE FOLLOWING NEW CLAIM:

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78. An endoscope according to claim 72 wherein said tube assembly comprises an inner tube and an outer tube surrounding said inner tube, with said first and second lenses and said photodetector being disposed within said inner tube, and further including light-transmitting means for transmitting light along the space between the inner and outer tubes so as to illuminate the region in front of said distal end of said tube assembly.

REMARKS

This is a Rule 62 continuation application based on currently pending application Ser. No. 08/067,140. Submitted herewith is a copy of a Petition To Extend Time that is being filed concurrently in said pending application Ser. No. 08/067,140. The petition extends the time for response to the Final Official Action in said pending parent application by three months to 5 January 1996. Therefore, this continuation application is entitled to the benefit of the filing date of said pending parent application.

Prior to this amendment, the claims in said parent application Ser. No. 08/067,140 were claims 50-77. As a result of this amendment, claims 51, 53-55, 66 and 74 have been canceled, with the result that claims 50, 52, 56-65, 67-73 and 75-78 are now pending in this continuation application.

The Examiner's approval of the drawing corrections in said parent application is appreciated.